

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 April 2005 (14.04.2005)

PCT

(10) International Publication Number
WO 2005/034169 A1

(51) International Patent Classification⁷: **H01J 49/26**

(21) International Application Number:
PCT/AU2004/001357

(22) International Filing Date: 6 October 2004 (06.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003905485 8 October 2003 (08.10.2003) AU

(71) Applicant (for all designated States except US): **VARIAN AUSTRALIA PTY LTD** [AU/AU]; 679 Springvale Road, Mulgrave, Victoria 3170 (AU).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KALINITCHENKO, Iouri** [AU/AU]; 5 Halifax Street, Mulgrave, Victoria 3170 (AU).

(74) Agent: **PHILLIPS ORMONDE & FITZPATRICK**; 367 Collins Street, Melbourne, Victoria 3000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

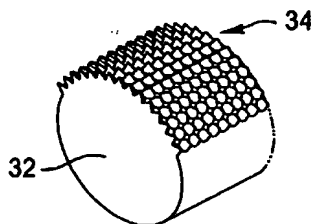
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **ELECTRODE FOR MASS SPECTROMETRY**



(57) Abstract: An electrode for use in a reduced pressure region in a mass spectrometer whereby the electrode is subject to deposition of dielectric (non-conducting) substances thereon, which can cause unstable performance of the mass spectrometer. The surface portion of the electrode that is for providing an equipotential boundary of an electric field for influencing charged particles is made rough, in contrast to the prior art of providing a polished surface. The rough surface provides projections and cavities, which may have a regular or irregular occurrence, which it has been found significantly reduces the deposition of dielectric substances from the charged particles thereon. A preferred structure is for a rod electrode (42) to have a screw thread (44) formed thereon whereby the thread crests (43) along the rod electrode provide projections (43) and the thread roots (45) provide cavities.

WO 2005/034169 A1